## **CLAIMS**

1	1. A control	system connected to and for controlling a cooking appliance having a
2	plurality of he	eated zones, the control system comprising:
3	a.	a microcontroller computer system under control of a program controlling
4		cooking times and generating signals for indicating the need for manual
5		operations by an operator;
6	b.	a plurality of sensors including temperature sensors detecting a
7		temperature of each zone, each sensor connected to input a signal to the
8		computer system;
9	c.	a plurality of displays each connected to receive output signals from the
10		computer system, each display being mounted in physical association with
11		a zone for signaling a zone condition and signaling manual operations
12		needed for its associated zone; and
13	d.	a plurality of manual input switches each connected to input a signal to the
14		computer system, each manual input switch being mounted in physical
15		association to a zone for manual confirmation of performance of a manual
16		operation signaled by a display for its associated zone.

- 1 2. A control system in accordance with claim 1, wherein the microcontroller also controls
- 2 cooking temperatures.

- 1 3. A control system in accordance with claim 2, wherein at least some of said displays
- 2 and input switches are arranged in physically associated pairs, each pair having a display
- and a switch, the pairs being physically located at diverse locations on the grill in
- 4 proximity to the location of the performance of the manual operations they signal.
- 4. A control system in accordance with claim 3 and further comprising an audible alarm
- 2 connected to receive output signals from the computer system for signaling to an operator
- 3 the need to perform a manual operation.
- 1 5. A control system connected to and for controlling a grill, the grill including a cooking
- 2 area and a staging area, the cooking area having at least one lower cooking zone and at
- 3 least one upper cooking platen movable into and away from a position spaced above the
- 4 lower cooking zone, the staging area having at least one staging zone, the control system
- 5 comprising:
- a. a microcontroller computer system under control of a program controlling
- 7 cooking and staging times, zone and platen temperatures and generating
- 8 signals for indicating the need for manual operations by an operator;
- b. a plurality of sensors including temperature sensors detecting the
- temperature of each zone and platen, each sensor connected to input a
- signal to the computer system;

12 c.	a plurality of user interface displays each connected to receive output
13	signals from the computer system, each display being mounted in physical
14	association to a different one of said zones for signaling a zone condition
15	and manual operations needed for its associated zone; and
16 d.	a plurality of manual input confirmation switches each connected to input
17	a signal to the computer system, each manual input switch being mounted
18	in physical association to a different one of said zones for manual

1 6. A control system in accordance with claim 5, wherein at least some of said displays 2

and input switches are arranged in physically associated pairs, each pair having a display

for its associated zone.

confirmation of performance of a manual operation signaled by a display

- 3 and a switch, the pairs being physically located at diverse locations on the grill in
- 4 proximity to the location of the performance of the manual operations they signal and
- 5 confirm.

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- 7. A control system in accordance with claim 6 wherein the zones comprise parallel lanes 1
- 2 oriented substantially parallel to a front edge of the grill, each zone having at least one of
- 3 said physically associated pairs.

- 8. A control system in accordance with claim 7, wherein the cooking area comprises a
- 2 plurality of cooking zones, each cooking zone comprises two of said lanes and has an
- 3 upper platen movable to a position above its two lanes, each cooking zone having one of
- 4 said physically associated pairs.
- 9. A control system in accordance with claim 8, wherein the staging area comprises a
- 2 plurality of staging zones, each staging zone comprising a lane and having one of said
- 3 physically associated pairs.
- 1 10. A control system in accordance with claim 7, wherein at least some of said pairs are
- 2 located on physically opposite sides of said grill.
- 1 11. A control system in accordance with claim 5 and further comprising a position sensor
- 2 linked to the upper platen for detecting whether the platen is in a raised or lowered
- 3 position, the position sensor having an output connected to an input to the computer
- 4 system for inputting platen position data to the computer system for signaling initiation
- 5 of a cooking operation.
- 1 12. A control system in accordance with claim 5 or 6 or 7 or 8 or 9 or 10 or 11 and
- 2 further comprising:

- a. an input for entering a size of a food product to be cooked on the grill
  into the computer system; and
- b. a lift mechanism mechanically linked to at least one upper platen for
  adjusting the height of the platen above the cooking area.
- 1 13. A control system in accordance with claim 12 wherein the lift mechanism is an
- 2 electrically controlled mechanical actuator having an input connected to an output of the
- 3 computer system for control of the upper platen height above the lower cooking zone
- 1 14. A control system in accordance with claim 12 and further comprising a temperature
- 2 sensor associated with each zone for detecting the temperature of its associated zone,
- 3 each temperature sensor connected to the computer system for controlling the
- 4 temperature of each zone and preventing initiation of a cooking timing cycle for a zone
- 5 when the zone temperature is outside a temperature range stored in the computer system.
- 1 15. A control system in accordance with claim 5 or 6 or 7 or 8 or 9 or 10 or 11 and
- 2 further comprising a temperature sensor associated with each zone for detecting the
- 3 temperature of its associated zone, each temperature sensor connected to the computer
- 4 system for controlling the temperature of each zone and for preventing initiation of a
- 5 cooking timing cycle for a zone when the zone temperature is outside a temperature range
- 6 stored in the computer system.

1 16. A method for controlling manual operations associated with a cooking appliance 2 having a plurality of heated zones for heating a food workpiece, the method comprising: 3 c. storing a time interval, associated with each zone, for performing a 4 workpiece heating operation at the associated zone after which a manual 5 workpiece operation needs to be performed; 6 d. detecting the commencement of a heating operation at a zone on the food 7 workpiece and initiating a timing cycle for a zone when and at which the 8 heating operation commences; 9 e. visually signaling the elapse of the stored time interval associated with 10 each zone at a display which is physically associated with the zone; and 11 f. manually inputting a confirmation signal from a manually operable 12 switch physically associated with a zone when the manual workpiece 13 operation for that zone has been performed. 1 17. A method in accordance with claim 16 wherein the commencement of the heating 2 operation in a cooking zone is detected by detecting the lowering of an upper platen 3 down upon workpieces positioned in a cooking zone.

1 18. A method in accordance with claim 16 wherein the commencement of a heating 2 operation is detected by manually inputting a signal from a manually operable switch

3 physically associated with a zone at which a heating operation has commenced.

1 19. A method in accordance with claim 16 wherein the heated zones include cooking 2 zones in which the heating operation includes cooking food workpieces and staging zones 3 in which the heating operation includes holding food workpieces within a stored 4 temperature range, wherein the commencement of a cooking operation in a cooking zone 5 is detected by detecting the lowering of an upper platen down upon workpieces 6 positioned in a cooking zone, wherein the commencement of a holding operation in a 7 staging zone is detected by manually inputting a signal from a manually operable switch 8 physically associated with a staging zone at which a holding operation has commenced, 9 and wherein the method further comprises storing an acceptable cooking temperature 10 range, detecting the temperature of a cooking zone and disabling the initiation of a timing 11 cycle for a cooking zone whenever the temperature of the cooking zone is not within the 12 stored cooking temperature range.

- 1 20. A method in accordance with claim 19, wherein the method further comprises:
- a. storing in the computer system a removal time interval after which a food
  workpiece in a staging zone should be removed from the staging zone:

b. visually signaling a staging zone, in which cooked food workpieces should be

workpiece in a staging zone should be removed from the staging zone;

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- 5 placed, at a display which is physically associated with the zone;
- c. manually inputting in the computer system a confirmation signal from a manually
  operable switch physically associated with the staging zone that food workpieces

8	have been placed in the staging zone and initiating in the computer system a
9	holding timing cycle in response to the confirmation signal;

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- d. upon elapse of the stored removal time interval for a staging zone, visually signaling, at a display which is physically associated with the staging zone, that food workpieces in the staging zone should be removed from the cooking appliance; and
- e. manually inputting in the computer system a confirmation signal from a manually operable switch physically associated with a staging zone that food workpieces have been removed from the staging zone.
- 21. A method in accordance with claim 20 and further comprising storing in the computer system a turning time interval after which a food workpiece in the staging zone should be turned, initiating in the computer system a turning timing cycle in response to the confirmation signal that food workpieces have been placed in the staging zone, and upon elapse of the stored turning time interval for a zone, visually signaling, at a display which is physically associated with the zone, that food workpieces in the staging zone should be turned.
- 1 17. A method in accordance with claim 16 or 17 or 18 or 19 or 20 or 21 and further comprising actuating an audible alarm in association with visual signaling.